

Amendments to the Claims:

This listing of claims will replace all prior versions, and listing, of claims in the application:

Listing of Claims:

1. (currently amended): A computer-program-based method for providing a feedback control for a given set of entry and target control quantities χ and u of a system model, the method comprising a repetition of the following steps:

a) providing a time-dependent simulation system model of a system in a computer memory for simulating performance of real hardware for a number n of iterations;

b) providing a predetermined starting value χ'_1 for each of said entry control quantities χ in said model,

c) running the model based on said starting values and obtaining a resulting actual value for each of said target control quantities u ,

d) using the values obtained for u to define a new start value for χ for use in a repeated modeling step, and

e) storing in said computer memory for display, at least the value of χ for the last iteration,

whereby the system method comprises the following formula to calculate the respective next value of the entry control quantities:

$$\chi'_{n+1} = \frac{v_n}{1 + \rho_n(1 - v_n)}$$

where ρ_n is an accumulated wait time divided by an accumulated

processing time of the system and v is a value according to the formula:

$$v_n = (n+1)u - nu_n$$

χ'_n being valid for the next iteration only while u_n and ρ_n are values measured from the beginning of the simulation.

2. (previously presented): The method according to claim 1 further comprising simulating a multi-processor system in which said control quantities are central processor utilizations in a computer system model wherein utilization is the percentage of time the central processor utilizes for processing.

3. (currently amended): A computer program product for providing a feedback control for a given set of entry and target control quantities χ and u of a system model, said computer program product comprising:

a computer readable medium having recorded thereon computer readable program code performing the method comprising a repetition of the following steps:

a) providing a time-dependent simulation system model of a system in a computer memory for simulating performance of real hardware for a number n of iterations iterations;

b) providing a predetermined starting value χ'_1 for each of said entry control quantities χ in said model,

c) running the model based on said starting values and obtaining a resulting actual value for each of said target control quantities u ,

d) using the values obtained for u to define a new start value for χ for use in a repeated modeling step, and

e) storing in said computer memory for display, at least the value of χ for the last iteration,

whereby the method comprises the following formula to calculate the respective next value of the entry control quantities:

$$\chi'_{n+1} = \frac{v_n}{1 + \rho_n(1 - v_n)}$$

where ρ_n is an accumulated wait time divided by an accumulated processing time of the system and v is a value according to the formula:

$$v_n = (n+1)u - nu_n$$

χ'_{n+1} being valid for the next iteration only while u_n and ρ_n are values measured from the beginning of the simulation.

4. (previously presented): The computer program product according to claim 3 wherein the method further comprises simulating a multi-processor system in which said control quantities are central processor utilizations in a computer system model wherein utilization is the percentage of time the central processor utilizes for processing.

5. (currently amended): A computer system for providing a feedback control for a given set of entry and target control quantities χ and u of a system model, the computer system comprising:

a) a computer memory having a time-dependent simulation system model of a computer system for simulating performance of

real hardware for a number n iterations iterations;

- b) a starting value χ'_1 for each of said entry control quantities χ in said system model,
- c) a control element running the system model based on said starting values and obtaining a resulting actual value for each of said target control quantities u ,

d) said control element using the values obtained for u to define a new start value for χ for use in a repeated modeling step, and

e) storing in said memory for display, the value of χ for the last iteration,

whereby the control element uses the following formula to calculate the respective next value of the entry control quantities:

$$\chi'_{n+1} = \frac{v_n}{1 + \rho_n(1 - v_n)}$$

where ρ_n is an accumulated wait time divided by an accumulated processing time of the system and v is a value according to the formula:

$$v_n = (n+1)\mu - n\mu_n$$

χ'_n being valid for the next iteration only while u_n and ρ_n are values measured from the beginning of the simulation.

6. (previously presented): The computer system according to claim 5 wherein said control element simulates a multi-processor system in which said control quantities are central processor utilizations in a computer system model wherein utilization is the percentage of time the central processor utilizes for processing.